

PATENT ABSTRACTS OF JAPAN

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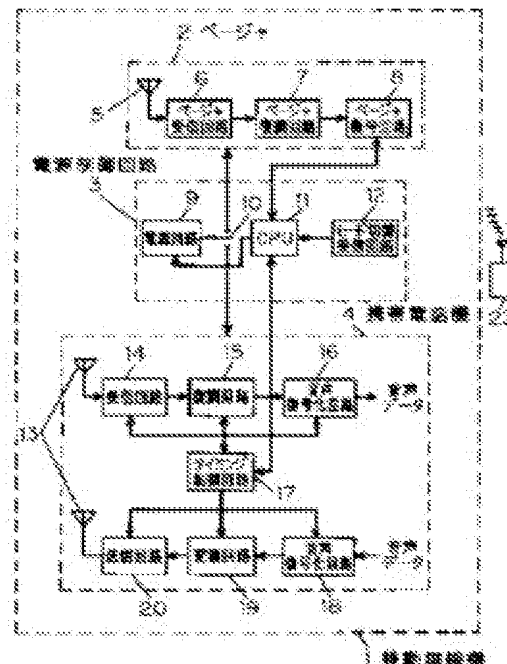
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(54) MOBILE RADIO EQUIPMENT

(57)Abstract:

PURPOSE: To forcibly stop speech communication at a location where the use of the mobile radio equipment such as a portable telephone set is desired to be inhibited and to allow the mobile radio equipment to receive an incoming call without giving an uncomfortable sense to surrounding persons due to speech.

CONSTITUTION: In the normal mode of a mobile radio equipment 1, a power changeover switch 10 of a power supply control circuit 3 is thrown to the position of a portable telephone set 4, which is energized and the portable telephone set mode is set. In the standby state of the user, when the user passes by a mode switching signal transmitter 23 installed at a wicket exit or the like, a mode switching reception circuit 12 of the mobile radio equipment 1 receives a mode switching signal and a CPU 11 switches a power changeover switch 10 to the pager mode for intermittent reception. When the user (caller) makes dialing by using the mobile radio equipment 1 in the pager mode, the setting state of the pager mode is informed to the caller. The changeover to the portable telephone set 4 is attained by receiving the mode switching signal from the mode switching signal transmitter 23 when the user passes through the wicket exit or a changeover switch provided to a key pad of the mobile radio equipment 1.



1 * NOTICES *

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3 JPO and INPIT are not responsible for any

4 damages caused by the use of this translation.

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6 1. This document has been translated by computer. So the translation may not reflect the original precisely.

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8 2. **** shows the word which can not be translated.

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10 3. In the drawings, any words are not translated.

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14 CLAIMS

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18 [Claim(s)]

19 [Claim 1] It is installed in a place to forbid a place or a telephone call which

20 wants to avoid a telephone call of a portable telephone which carries out radio

21 paging and has a pager which is a receive section of business, and said portable

22 telephone, A mode switching signal delivery means which sends out a mode switching

23 signal for changing said portable telephone to pager mode / portable telephone

24 mode, A mode change reception means which is built in said portable telephone

25 and receives said mode switching signal, A mobile radio apparatus provided with

26 a control means which notifies a base station that portable telephones are in

27 pager mode / portable telephone mode while changing said portable telephone to pager

28 mode / portable telephone mode, when said mode change reception means receives

29 a mode switching signal.

30 [Claim 2] The mobile radio apparatus according to claim 1 changing said portable

31 telephone to pager mode / portable telephone mode whenever said mode change reception

32 means receives a mode switching signal.

33 [Claim 3] The mobile radio apparatus according to claim 1 changing said portable

34 telephone to pager mode only while said mode change reception means has received

35 a mode switching signal from said mode switching signal delivery means.

36 [Claim 4] The mobile radio apparatus according to claim 1 or 2 whose setting position

37 of said mode switching signal delivery means is a wicket of a public facility

38 or a station.

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49 DETAILED DESCRIPTION

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53 [Detailed Description of the Invention]

54 [0001]

55 [Industrial Application] This invention relates to a mobile radio apparatus for a

56 telephone call to change a portable telephone to pager mode compulsorily at the

57 place which gives the surrounding person displeasure in more detail about a mobile

58 radio apparatus.

59 [0002]

60 [Description of the Prior Art] Drawing 5 shows the mobile wireless machine equivalent

61 to the conventional portable telephone.

62 [0003] The receiving circuit where 13 amplifies the antenna for transmission and

63 reception, and 14 amplifies the received data from the antenna 13 in drawing 5,

64 The demodulator circuit which 15 reproduces a baseband signal from received data

65, and reproduces a clock, The voice decoding circuit where 16 changes a reproduced

66 baseband signal into an analog voice signal, The timing control circuit where

67 17 controls the timing of the whole mobile wireless machine, the voice coding

68 circuit where 18 changes an analog voice signal into a baseband signal, the modulation

69 circuit where 19 modulates a baseband signal in accordance with each modulating

70 method, and 20 are sending circuits which amplify and send data. 29 is CPU which

71 controls the whole mobile wireless machine.

72 [0004] Next, operation of a conventional example is explained. In the conventional

73 example of the above-mentioned composition, if the power supply of a mobile wireless

74 machine is turned ON, it is set to ON, and all the circuits await by performing

75 location registration which registers the existing self position into a base station,

76 and will be in a state. It awaits, and in the state, clock supply from the timing

77 control circuit 17 is made into the minimum, only the slot of required information

78 turns ON a power supply, and the receiving circuit 14 and the demodulator circuit

79 15 change to intermittent reception mode. The voice decoding circuit 16, the voice

80 coding circuit 18, the modulation circuit 19, and the sending circuit 20

ding circuit 20 shift to a standby mode, and become intermittent reception mode. In intermittent reception mode, several intermittent reception is performed at hundreds of ms. Arrival and when call origination is carried out, it changes to talk mode. Only required time turns ON a power supply also by talk mode.

[0005] Thus, the conventional mobile wireless machine can receive a message also at the place which wants to avoid the inside of vehicles, such as a public facility and a train, and a telephone call, if a power supply is in a service area in ON.

[0006] [Problem to be solved by the invention] In the conventional mobile wireless machine, if it is an area which can receive a message with the power supply ON, a message can be received also at the place which wants to avoid the inside of vehicles, such as a public facility and a train, and a telephone call, and if it talks over the telephone, it may become troublesome to the surrounding person. On the contrary, there was a problem that urgent business etc. could not be received without the ability to receive a message if a power supply is turned OFF and placed in order to stop the telephone call of a mobile radio apparatus compulsorily.

[0007] This invention solves such a conventional problem. The purpose is to provide a mobile radio apparatus which can receive a message without changing to cellular-phone pager mode and giving displeasure to the surrounding person at a place which wants to avoid the inside of vehicles, such as a public facility and a train, and a telephone call, or a place to forbid use of a telephone.

[0008] [Means for solving problem] A portable telephone which carries out radio paging of this invention to achieve the above objects, and has a pager which is a receiving section of business. A mode switching signal delivery means which sends out a mode switching signal for being installed in a place to forbid a place or a telephone call which wants to avoid a telephone call of said portable telephone, and changing said portable telephone to pager mode / portable telephone mode. A mode change reception means which is built in said portable telephone and receives said mode switching signal. When said mode change reception means received a mode switching signal, while changing said portable telephone to pager mode / portable telephone mode, it had composition provided with a control means which notifies a base station that portable telephones are pager mode / portable telephone mode.

[0009] [Function] Therefore, according to this invention, if a mode change reception means receives a mode switching signal, since a portable telephone will change to pager mode automatically and a message will be received in pager mode in arrival in an institution or a train, giving displeasure to the surrounding person is lost.

[0010] [Working example] Drawing 1 shows one working example of this invention. In drawing 1, it is a control circuit where 1 controls a mobile wireless machine, 2 controls a pager, and 3 controls ON/OFF of the power supply of the pager 2 and the portable telephone 4.

[0011] The pager 2 comprises the pager receiving circuit 6 which amplifies the signal received by the antenna 5, the pager demodulator circuit 7 which restores the received pager signal, and the pager decoder circuit 8 which acquires a terminating signal from the signal to which it restored.

[0012] 9 is a power supply circuit which supplies a power supply to the pager 2 and the portable telephone 4. The power supply changeover switch which changes the power supply to the portable telephone 4 to the pager 2 by CPU11 by which 10 controls the mobile wireless machine 1, and 12 receive a mode switching signal, and output a switching request signal to CPU11.

[0013] 23 is a mode switching signal transmission circuit which sends out a mode switching signal, and this mode switching signal transmission circuit 23 is installed in the wicket 24 of a station, as shown in drawing 2. CPU26 by which the commuter pass or ticket in which the user 22 who carries the mobile wireless machine 1 owns this mode switching signal transmission circuit 23 as shown in drawing 3 incorporates the information on whether it passed through the wicket 24, and advances a Request to Send. It comprises the sending circuit 27 and the antenna 28 which send out a mode switching signal based on the Request-to-Send instructions from this CPU26.

[0014] In drawing 1, the marks 13-20 show the same component as each circuit block shown in drawing 5.

[0015] Next, operation of above-mentioned working example is explained. In above-mentioned working example, if the power supply of the mobile wireless machine 1 is turned ON, at the time, the power supply changeover switch 10 of the control circuit 3 will change to the portable telephone 4 side, and the portable telephone 4 will be made into operational mode, and it will usually become the same portable telephone as usual.

[0016] If the user 22 who carries the mobile wireless machine 1 of the above-mentioned state passes through the wicket 24 of the station shown in drawing 2, a mode switching signal will be sent out from the mode switching signal sending device 23 which transmits the switching signal of pager mode and portable telephone mode, and this mode switching signal will be received by the mobile wireless machine

161 hine 1. That is, a Request to Send is advanced by the mode switching signal send
162 ing device 23 to the sending circuit 27 based on information when CPU26 shown in
163 drawing 3 passes a commuter pass and a ticket passes a ticket gate. In the send
164 ing circuit 27, a mode switching signal is amplified and a mode switching signal
165 is sent out from the antenna 28. It reports to a base station that the mobile w
166 ireless machine 1 shifted to pager mode simultaneously with this.

167 [0017]On the other hand, in the mobile wireless machine 1, the mode change recei
168 ving circuit 12 receives a mode switching signal, and it outputs to CPU11.

169 [0018]In CPU11, the power supply circuit 9 is changed to the pager 2 side with t
170 he power supply changeover switch 10, the mobile wireless machine 1 is changed t
171 o pager mode, and intermittent reception is performed. Receive a calling party,
172 when call origination is carried out to the mobile wireless machine 1 in pager m
173 ode. "since a mobile wireless machine for call origination is in pager mode, a t
174 elephone call of it is impossible. If there is a message, I will need your help.
175 " is reported. In connection with this, a message from a calling party is repor
176 ted to the mobile radio apparatus 1 through a pager network. And the message is
177 received and memorized in the mobile wireless machine 1. A user of the mobile wi
178 reless machine 1 gets to know a message with a display or a sound.

179 [0019]A change to the portable telephone 4 is possible by a changeover switch wh
180 ich received a mode switching signal from the mode switching signal sending devi
181 ce 23, or was provided in a keypad (un-illustrating) of the mobile wireless mach
182 ine 1, when coming out of the wicket 24.

183 [0020]Although above-mentioned working example explained a case where a mode cha
184 nged a change of a cellular phone and a pager whenever it receives a mode switch
185 ing signal, this invention is not limited to this.

186 [0021]For example, as shown in drawing 4, only while there is the user 22 who ca
187 rries the mobile wireless machine 1 in the wireless zone 25 of the mode switchin
188 g signal sending device 23 and he has received the mode switching signal, it is
189 also possible to make it change to a pager. In this case, if the mobile wireless
190 machine 1 moves out of the wireless zone 25, the mobile wireless machine 1 will
191 change to portable telephone mode.

192 [0022]

193 [Effect of the Invention]As for this invention, a mobile wireless machine at the
194 place which wants to avoid the inside of vehicles, such as a public facility an
195 d a train, and a telephone call, or a place to forbid use of a cellular phone so
196 that more clearly than above-mentioned working example. Since it changes to pag
197 er mode compulsorily by receiving the mode switching signal from a mode switchin
198 g signal delivery means, it has the effect that the arrival in case of emergency
199 etc. can be received without giving displeasure to the surrounding person.

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